Screening Site Inspection Report

for

D.M. Fertilizer, Inc.

USEPA ID No. ILD 087 157 947

September 15, 1995

Prepared for
U.S. Environmental Protection Agency
Contract 68-W8-0064
Work Assignment 29-5JZZ



For U.S. Environmental Protection Agency, Region	n v
Approved by: Man Allan	Date: 9/19/95
For Illinois Environmental Protection Agency	
Approved by:	Date:

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1.0 Introduction

On August 7, 1991, the Alternative Remedial Contracting Strategy (ARCS) V contractor was authorized by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct a screening site inspection (SSI) of D.M. Fertilizer, Inc. (DM Fertilizer), in Vermilion County, Illinois.

DM Fertilizer was listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) in November 1989. The CERCLIS listing is a result of an Illinois Environmental Protection Agency (IEPA) request for discovery action.

The purposes of the SSI have been stated by USEPA in a directive outlining pre-remedial program strategies. The directive states:

All sites will receive a screening SI to 1) collect additional data beyond the PA to enable a more refined preliminary HRS (Hazard Ranking System) score, 2) to establish priorities among sites most likely to qualify for the NPL (National Priorities List), and 3) to identify the most critical data requirements for the listing [expanded] SI step. A screening SI will not have rigorous data quality objectives (DQOs). Based on the refined preliminary HRS score and other technical judgement factors, the site will then either be designated as NFRAP (no further remedial action planned) or carried forward as an NPL listing candidate. A listing [expanded] SI will not automatically be done on these sites. First, they will go through a management evaluation to determine whether they can be addressed by another authority such as Resource Conservation and Recovery Act.... Sites that are designated as NFRAP or deferred to other statutes are not candidates for a listing [expanded] SI.

The listing [expanded] SI will address all data requirements of the revised HRS using field screening and NPL level DQOs. It may also provide needed data in a format to support remedial investigation work plan development. Only sites that appear to score high enough for listing and that have not been deferred to a higher authority will receive a listing [expanded] SI (USEPA, 1988).

USEPA Region V requested the ARCS V contractor to identify sites during the SSI that may require removal action to remediate an immediate human health or environmental threat.

2.0 Site Background

2.1 Site History

DM Fertilizer is an active retail agribusiness that sells agrichemicals to local farmers. Located about 4 miles east of Hoopeston, Illinois, the DM Fertilizer site occupies about 7 acres of land at the southeastern corner of the intersection of Illinois Routes 3 and 9. The site is in Section 15, Township 23 North, Range 11 West, Vermilion County, Illinois (United States Geological Survey 1964). Figure 1 presents a site location map.

A 1983 fish kill in the North Fork Vermilion River, about one-half mile north of the site, was attributed to a release of agrichemicals from an onsite waste water holding pond.

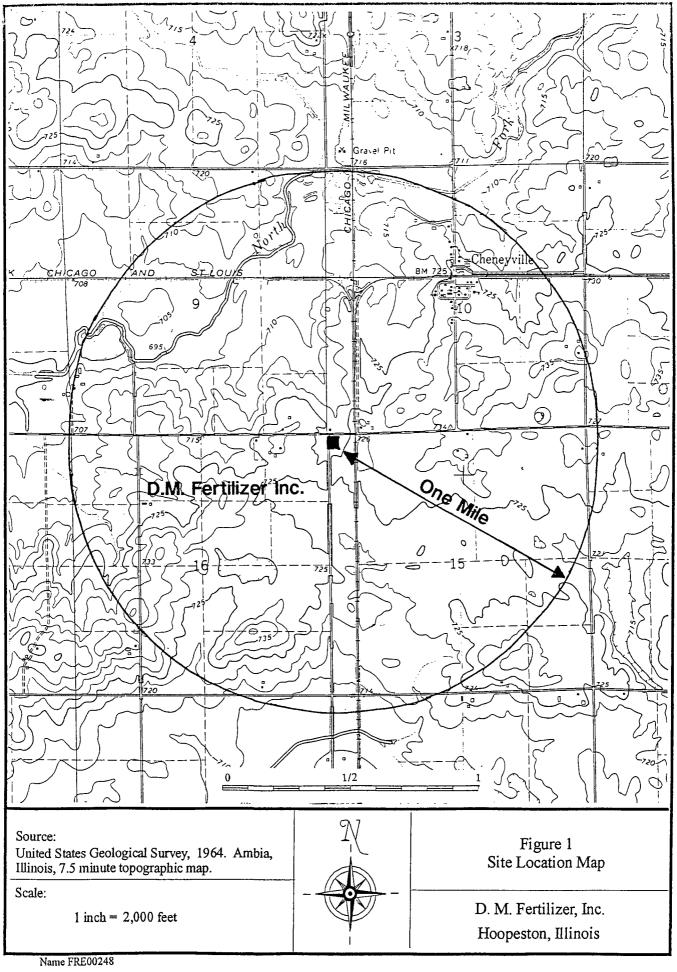
In March 1990, the IEPA and a representative of the Illinois Attorney Generals Office met with DM Fertilizer representatives to discuss the removal of the holding pond. In May 1990, DM Fertilizer submitted a removal plan to the IEPA.

2.2 Past Site Characterization Studies

On September 20, 1989, the IEPA sampled the onsite groundwater well. The well is screened in a shallow sand and gravel aquifer. Analytical data revealed no impact to the well.

On June 12, 1991, the IEPA collected two soil samples from the bottom of the freshly excavated holding pond, and two more samples from soil recently excavated from the holding pond. Soil samples numbered 1 and 2 were collected from clay exposed in the bottom of the recently excavated holding pond. Samples numbered 3 and 4 were collected from the excavated soil. All four samples were analyzed for the presence of five pesticides: trifluralin, atrazine, alachlor, metolachlor, and cyanazine. Data from the analysis of samples 1 and 2 show the five pesticides were undetected in those samples. Analysis of samples 3 and 4 revealed the presence of the pesticides at elevated concentrations, ranging from 7 to 110 micrograms per gram. The analytical data from the analysis of these four samples is in Appendix A.

On July 23, 1991, an IEPA preliminary assessment (PA) reconnaissance was completed (IEPA 1991). Excavation of soil in the bottom of the holding pond was partially complete. Excavated soil was stockpiled on a plastic sheet near the eastern site border. Site buildings and bulk storage vessels were in sound condition; however,



Date: 02/20/95

modification of the liquid storage and mixing area was underway to meet containment specifications established by the Illinois Department of Agriculture.

The IEPA completed a PA report on DM Fertilizer on July 29, 1991.

Soil excavated from the bottom of the holding pond in 1991 was eventually landfilled. It is not known what landfill received the soil.

In December 1993, an offsite SSI reconnaissance was conducted. No evidence of the former holding pond was observed from the road. The surface water pathway was defined and nearby wells identified. No stressed vegetation was present in the surface water pathway. One nearby resident complained water from their well had a foul odor after a heavy rain. No onsite SSI reconnaissance has been conducted.

3.0 Pathway Evaluation

A review of the records obtained by the ARCS V contractor indicates the former holding pond was the possible source of contamination. Several fertilizer, pesticide, and herbicide tank and bulk storage areas exist onsite; however, DM Fertilizer maintains these tanks and storage areas in good condition with secondary containment structures.

3.1 Groundwater Pathway

Subsurface geologic units are not well documented in the site area (IEPA 1991). In general, glacial drift is present from ground surface to bedrock, about 300 feet below ground surface (bgs). The drift is predominantly clay from about 10 feet bgs to 75 feet bgs. Beneath the clay are alternating layers of sand and gravel. The drift is underlain by Pennsylvanian age bedrock, predominantly shale with thin limestone, sandstone, and coal beds.

Much of the glacial drift is saturated. Within 4 miles of the site, groundwater is commonly encountered within 20 feet of the ground surface and private drinking water wells are screened in sand and gravel in the upper, middle, and lower parts of the drift aquifer. A nearby well about 500 feet west of the site on the northern side of Route 9 is about 90 feet deep. The onsite well is about 230 feet deep.

The exact population using the drift aquifer as a drinking water source is unknown. Table 1 shows the estimated population within 4 miles of the site using the drift aquifer as a drinking water source. The population shown in Table 3-1 is determined by multiplying the average number of persons (98.2) per square mile in Vermilion County by the area of the target distance ring (U.S. Department of Commerce 1990). Using this method, an estimated population of 4,937 persons use groundwater as drinking water within 4 miles of the site.

The nearest private well is at a residence about 400 feet northeast of the site.

3.2 Surface Water Pathway

The overland flow route to the North Fork Vermilion River is poorly defined. Site runoff appears to be captured by ditches on the western and northern sides of the site. Runoff in these ditches flows north, through a reinforced concrete box under Route 9 to a grated drain in the ditch on the northern side of Route 9. The

Table 1 Estimated Population Using the Glacial Drift as a Drinking Water Source			
Distance (miles)	Population		
0 - 1/4	19		
1/4 - 1/2	58		
1/2 - 1	231		
1 - 2	926		
2 - 3	1,543		
3 - 4	2,160		

Source: U.S. Department of Commerce 1990

drain is shown in photographs number 2 and 3 in Appendix B. The outfall location for this drain was not determined during this SSI. When runoff exceeds the drains capacity, overflow will spill over a small rock berm in the fence line on the northern side of the Route 9 ditch, and flow over cultivated farm ground north and then northwest to the river. No channel was observed to be eroded into the farm ground. The probable point of entry into the river is about one-half mile northwest of the site.

No drinking water intakes are known to exist within the 15 downstream mile target distance below the probable point of entry (IEPA 1983, 1992). The river is assumed to be a fishery. Several forested wetlands front the river in the target distance limit (U.S. Department of the Interior 1983). No other downstream sensitive environments are identified in this investigation.

3.3 Soil Exposure Pathway

The site is partially covered with gravel driveways and parking areas. Much of remainder of the site is covered by a maintained grass lawn.

No school, daycare, or residence is identified within 200 feet of the site. Approximately 15 workers are assumed to be present at the site.

3.4 Air Pathway

As stated in the previous section, much of the site ground surface is covered with gravel or grass.

Including onsite workers, an estimated population of 34 persons reside or work within 1/4 mile of the site. The nearest residence is about 400 feet northeast of the site.

4.0 Summary

The ARCS V contractor conducted a thorough review of the available files associated with DM Fertilizer. An onsite reconnaissance was not completed; however, an offsite reconnaissance identified targets in four migration pathways: groundwater, surface water, soil, and air.

The holding pond has been removed, and analysis of samples from the bottom of the excavation failed to detect pesticides. The site is well maintained and storage vessels appear to be well contained. No existing sources or areas of concern are identified at the site.

5.0 References

- Illinois Environmental Protection Agency 1983. List of Public and Food Processing Water Supplies Utilizing Surface Water, July.
- Illinois Environmental Protection Agency 1991. Preliminary Assessment Report for D.M. Fertilizer Site Number 087157947, Division of Land Pollution Control, July 29.
- Illinois Environmental Protection Agency 1992. GWM Raw Source Location Report, Division of Public Water Supplies, July 16.
- U.S. Department of Commerce 1990. Summary Population and Housing Characteristics Illinois, 1990 Census of Population and Housing, Bureau of the Census, 1990 CPH-1-15.
- U.S. Department of the Interior 1983. Wetlands map, Ambia, Illinois, 7.5 minute quadrangle, Fish and Wildlife Service, April.
- U.S. Environmental Protection Agency (USEPA), 1988a. "Pre-Remedial Strategy for Implementing SARA," Office of Solid Waste and Emergency Response, Washington, D.C., Directive Number 9345.2-101, February.
- United States Geological Survey 1964. Topographic map, Ambia, Illinois, 7.5 minute quadrangle, scale 1:24000.

Appendix A
IEPA Analytical Data

Lab Sheet Color: White IEPA - DWPC - FO	S - LAB SHEET Field ID No.:
09-Funding Code: $P / 5$ 10-Agency Routing C	\underline{P} 12-File Code: $\underline{A} \underline{G} \underline{R} \underline{I}$ 13-Sample Type: \underline{X}
15-Reporting: B 16-DID: BasinCounty_ 18-Facility/Sample Pt: D. M. Feitt 1 I O A County	Plant 17-Sampling Program: A 6 19-Begin 9 1 0 6 1 220-Begin 1 1 2 9 Date: Y Y M M D D H H M M
23 Instructions	(24 hr.clock) cted by: I P # 22-Transported by: I P # 7 UPS 27-Received By: Date:
Ending Time: 5 2 9 F 0 H H M M (24-hr.clock)	Influent Process Flows WWTP Sludge Cooling Water Other Program:
03-Lab Parameter Group:	NPDES No:
Additional Field Lab Parameters Parameters Results 501F0	Receiving Stream Name:
Air Temp (°C) 502F0 Water Temp (°C)	Receiving Stream Conditions (velocity,etc):
October 504F0 Dissolved 02 Source Conductance 500F0	Effluent Conditions:
Comments & Unusual Conditions &	Weather Conditions:
Severity: (If applicable, Stamp- "No Visible Problem This Visit" on West side.	") Soil from bottom of pond
Remarks: Soil Somple	from soils of westewater halding
Sampling Techniques:	FOR LABORATORY USE ONLY LAB ID NO. D193660
	Sample Received By:
Mail To:	Time Received: 10:00 AM PM UP.
	Lab Section: Spungfield 8-28-91 Supervisor: Hunery

IL 532-1575 WPC 526 6/87

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SAMPLE NUMBER : D193660

SAMPLING POINT DESC. : D M FERTILIZER/VERMILION CO 1

SUBMITTING SOURCE # : SITE # :

DATE COLLECTED: 910612 TIME COLLECTED: 1128 SAMPLING PROGRAM: AG

COLLECTED BY : JPH DELIVERED BY : UPS

COMMENTS : PESTICIDE SCAN/ALACHLOR/ATRAZINE/CYANAZINE/METOLACHLOR/TRIFLURN

FUNDING CODE: WP15 AGENCY ROUTING: CP UNIT CODE:

SAM TYPE CODE: AGRI SAMPLE PURPOSE CODE: X REPORTING INDICATOR: 3

DATÉ RECEIVED: 910613 TIME RECEIVED: 1000 RECEIVED BY: F T

LAB OBSERVATIONS: 60% SCIL TRIP BL SAM#:

SUPERVISORS INITIALS : JTH NOTE : K = LESS THAN VALUE

: TRIFLURALIN UG/G; 0.1K
: ATRAZINE UG/G; 0.1K
: ALACHLOR UG/G; 0.1K
: METOLACHLOR UG/G; 0.1K

: CYANAZINE UG/G ; 0.1K

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Lab Sheet Color: White	IEPA - DWPC - FOS	- LAB SHEET	Sample Field ID No.: 7
09-Funding Code: (i) P 1 5 10-	Agency Routing c $ ho$	12-File Code: AGRI13	-Sample Type: X
15-Reporting: B 16-DID: Basin 18-Facility/Sample Pt: D. M. 1 1 0 1 Cock t	1. Ferti	1º Zer. Inc	Ver mi
23-Instructions to Lab: $f \in S + i \subset i$ $S \subset G \land f \in S + i$ $e \subseteq G \subseteq G \cap G \cap G$ Composite Sample Ending Date: $5 = 2 \circ G \cap G \cap G$	de_21-Collect Lid Tbelow	ed by: I P H 22-Transporte 27-Received By: Date Received by: Date	(24 hr.clock) ed by: <u>A P # 7</u> UPS T Y M M D D T Y M M D D
Ending Time: 5 2 9 F 0 H H			ocess Flows WWTP oling Water Other
03-Lab Parameter Group:		NPDES No:	
Additional Field Lab Parameters Parameters 501F0		Receiving Stream Name:_	·
Air Temp (5 502F0 Water Temp 504F0		Receiving Stream Condit	ions (velocity,etc):
Cyanazina Dissolved (503FO Metolachar Conductance 500FO		Effluent Conditions:	
Severity:(If a	sual Conditions & applicable, Stamp-roblem This Visit")	Weather Conditions:	
	easterd	Souple very hard	7
Remarks: So Dovd the Sampling Techn	& is being to	from soils of w	esteurter holderg
		LAB ID NO. D1936	
ail To:		Sample Received By: Date Received: Time Received: /0:00 Lab Section: Supervisor:	
IL 532-1575 WPC 526 6/87			ℓ

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SAMPLE NUMBER : D193661

SAMPLING POINT DESC. : D M FERTILIZER/VERMILION CO 2

SUBMITTING SOURCE # : SITE # :

DATE COLLECTED: 910612 TIME COLLECTED: 1132 SAMPLING PROGRAM: AG

COLLECTED BY : JPH DELIVERED BY : UPS

COMMENTS : PESTICIDE SCAN/ALACHLOR/ATRAZINE/CYANAZINE/METOLACHLOR/TRIFLURN

FUNDING CODE: WP15 AGENCY ROUTING: CP UNIT CODE:

SAM TYPE CODE : AGRI SAMPLE PURPOSE CODE : X REPORTING INDICATOR : 8

LAB OBSERVATIONS: 602 SOIL TRIP BL SAM#:

SUPERVISORS INITIALS : JTH NOTE : K = LESS THAN VALUE

: .

: TRIFLURALIN UG/G; 0.1K : ATRAZINE UG/G; 0.1K : ALACHLOR UG/G; 0.1K : METOLACHLOR UG/G; 0.1K

: CYANAZINE UG/G ; 0.1K

IL 532-1575 WPC 528 8/87

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SAMPLE NUMBER : D193662

SAMPLING POINT DESC. : D M FERTILIZER/VERMILION CO 3

SUBMITTING SOURCE # :

SITE # :

DATE COLLECTED: 910612

TIME COLLECTED: 1157 SAMPLING PROGRAM: AG

COLLECTED BY : JPH

DELIVERED BY : UPS

COMMENTS : PESTICIDE SCAN/ALACHLOR/ATRAZINE/CYANAZINE/METOLACHLOR/TRIFLURLN

FUNDING CODE: WP15 AGENCY ROUTING: CP UNIT CODE:

SAM TYPE CODE: AGRI SAMPLE PURPOSE CODE: X REPORTING INDICATOR: 8

DATE RECEIVED: 910613 TIME RECEIVED: 0000 RECEIVED BY: F T

LAB OBSERVATIONS: OOZ SCIL TRIP BL SAM#:

SUPERVISORS INITIALS : JTH NOTE : K = LESS THAN VALUE

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: TRIFLURALIN UG/G ; 110 : ATRAZINE UG/G ; 42 : ALACHLOR UG/G ; 40 : METOLACHLOR UG/G ; 28

: CYANAZINE UG/G ; 15

Lab Sheet Color	white	IEPA - DWPC - FO	OS - LAB SHEET	Field ID No.:
09-Funding Code	:WP1510.	Agency Routing C	ρ 12-File Code: θ	$\angle RI$ 13-Sample Type: $\angle X$
18-Facility/Sam	ple Pt: 🗘 🗘	1-fect	ilizes	ampling Program: AG INC_VerM 6 / Z20-Begin / / #5 H H M M
22 Instructions	3 ± i c i f e s ± i g i r e d e 2 9 F 0 y y	de_21-colle cid + below m m o o	27-Received By:	(24 hr.clock) ransported by: TPHFUPS Date: YYMMDD Date: YYMMDD luent Stream Specials: luent Process Flows WWIP dge Cooling Water Other)
	H H (24-hr	M M .clock)	Program:	
03- <u>Lab Parameter</u> Additional <u>Lab Parameters</u>	Field Parameters	Results	1	am Name:
Alachlor Atrezine	504 FO	°C)	Receiving Stream	am Conditions (velocity,etc):
Cyona zina Metolachla	Dissolved 503F0 Conductance 500F0		Effluent Condi	tions:
Influsion	pH Comments & Un Severity:(If	usual Conditions applicable, Stamp-		ions:
		1	2 and bouks	Soil Bomple of
	Remarks: So		From Soils	of westewater holders
	Sampling Tech	niques:	FOR LABORATO	RY USE ONLY D173663
Mail To:			Time Receive	ved By: d: d: Jo:00 AM PM.D. Springfield 8-28-91
IL 532-1575 WPC 526 6/87				

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

SAMPLE NUMBER : D193663

SAMPLING POINT DESC. : D M FERTILIZER/VERMILION CO 4

SUBMITTING SOURCE # : SITE # :

DATE COLLECTED: 910612 TIME COLLECTED: 1145 SAMPLING PROGRAM: AG

COLLECTED BY : JPH DELIVERED BY : UPS

COMMENTS : PESTICIDE SCAN/ALACHLOR/ATRAZINE/CYANAZINE/METOLACHLOR/TRIFLURLN

FUNDING CODE: WP15 AGENCY ROUTING: CP UNIT CGDE:

SAM TYPE CODE : AGRI SAMPLE PURPOSE CODE : X REPORTING INDICATOR : 8

DATE RECEIVED: 910613 TIME RECEIVED: 0000 RECEIVED BY: F T

LAB OBSERVATIONS: 50% SCIL TRIP BL SAM#:

SUPERVISORS INITIALS : JTH NOTE : K = LESS THAN VALUE

: .

: TRIFLURALIN UG/G; 12 : ATRAZINE UG/G; 13 : ALACHLOR UG/G; 7.6 : METOLACHLOR UG/G; 7.0

: CYANAZINE UG/G ; 8.8

Appendix B Photographs

DM Fertilizer Proj. #: 70970.101

Roll: 1 Photo #: 1 Date: 10/12/93 Time: 1005

Photographer: S. Mehay
Description: Northeastern side of DM Fertilizer, as seen from the nearest private residence. The residence is about 400 feet

northeast of the site.



Site: DM Fertilizer Proj. #: 70970.101

Roll: 1 Photo #: 2 Date: 10/12/93 Time: 1015

Photographer: S. Mehay

Description: Ditch at northern end of the reinforced concrete box under Route 9. Beyond the rock berm in the fence line, overland flow is through the grass covered field in the background. Note drain at the base of the white flag. View is to the north.



Site: DM Fertilizer
Proj. #: 70970.101
Roll: 1 Photo #: 3
Date: 10/12/93 Time: 1020
Photographer: S. Mehay
Description: Close up of drain in ditch on north side of Route 9. View is to the

northeast.

